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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/026,021	12/21/2001	Yasumichi Hitoshi	021044-001210US	6123

20350 7590 09/26/2005

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EIGHTH FLOOR
SAN FRANCISCO, CA 94111-3834

EXAMINER	
YU, MISOOK	

ART UNIT	PAPER NUMBER
1642	

DATE MAILED: 09/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/026,021	HITOSHI ET AL.	
	Examiner	Art Unit	
	MISOOK YU, Ph.D.	1642	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 June 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-34 and 36-39* is/are pending in the application.

4a) Of the above claim(s) *1-8,12-14,17,19 and 39* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *9-11,15,16,18,20-32,34 and 36-38* is/are rejected.

7)☒ Claim(s) *33* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *06/29/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☒ Other: *Exhibit B, and C*.

DETAILED ACTION

Claims 1-8 and 39 remain withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Claims 12-14, 17, 19 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim.

Claims 1-34 and 36-39 are pending, and claims 9-11, 15, 16, 18, 20-34, 36-38 are examined to the extent they are drawn to the elected species of measuring cellular proliferation.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

This Office action contains new grounds of rejection.

Claim Rejections - 35 USC § 112, Withdrawn

The rejection of claims 9-11, 15, 16, 18, 20-38 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention is withdrawn in view of the amendment.

The rejection of claims 9-11, 15, 16, 18, 20-32, and 34-38 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement is withdrawn in view of the amendment.

The rejection of claims 9, rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement is withdrawn in view that claim 35 is cancelled.

Claim Rejections - 35 USC § 102, Withdrawn

The rejection of claims 9-11, 15, 16, 18, 24-32, 34, 36, and 37 under 35 U.S.C. 102(b) as being anticipated by US 5,650,501 A (IDS AA filed on 06/27/002, 22 July 1997, the '501 patent from now on) is withdrawn because the amended claims are no longer anticipated by US 5,650,501 A.

Claim Rejections - 35 USC § 103, Withdrawn

The rejection of claims 9, 15, and 20-23 under 35 U.S.C. 103(a) as being unpatentable over US 5,650,501 A (22 July 1997) in view of US 5,959,081 A (28 September 1999, the '081 patent from now on) is also withdrawn because US 5,650,501 A is not an art for the amended base claim 9.

The rejection of claims 9, 37, and 38 under 35 U.S.C. 103(a) as being unpatentable over US 5,650,501 A (22 July 1997) in view of US 5,589,356 A (31 December 1996, the '356 patent from now on) is also withdrawn because US 5,650,501 A is not an art for the amended base claim 9

The Following Are New Grounds of Rejections

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 9-11, 24, 25, 32, 36, and 37 are rejected under 35 U.S.C. 102(e) as being anticipated by WO 01/53312 A1 (filing date of 26 December 2000, the entire sequence listing and sequence table are not provided in this office action because the document is over 600 pages. The relevant sequence is provided with the sequence alignments as Exhibits B, and C).

Claims 9-11, 24, 25, 32, 36, and 37 are drawn to method of identifying a useful compound by determining the functional effect of said compound modulating cellular proliferation when said compound is contacted with a SAK polypeptide encoded by a nucleic acid encoding a SAK polypeptide having at least 95% sequence identity to instant SEQ ID NO:2 protein, wherein the polypeptide has serine/threonine kinase activity, wherein the effect is measure in vitro (claim 10), the effect being a physical effect (claim 11), the modulation being inhibition of cellular proliferation (claim 24), inhibition of cancer cell proliferation (claim 25), the polypeptide being used in the method is recombinant (claim 32), the compound being screened in the method is a small organic molecule 9claim 36), and he compound being screened in the method is a peptide (claim 37).

WO 01/53312 A1 teaches (1) a SAK polypeptide that is 99.9% identical (i.e. SEQ ID NO: 2389) to the instant SEQ ID NO:2 (see Exhibit B) encoded by a recombinant nucleic acid (i.e. SEQ ID NO: 603) that is 99.9 % identical to instant SEQ ID NO:1 (see

Exhibit C); (2) drug screening assays using a polypeptide encoded by the many disclosed recombinant nucleic acids, one of the being SEQ ID NO: 603 (see pages 89-91). Although WO 01/53312 A does not say anything about "a compound modulates cellular proliferation" recited in the preamble of the instant claim 9, this limitation in the preamble does not breathe life and meaning into the claims because the compound being selected in the claims as currently construed are not identified based on the modulation cellular proliferation. Note claim 24 describes modulation of cellular proliferation, not compound being selected based on inhibition of cellular proliferation. Thus, the instant claims 9-11, 18, 24, 25, 32, 36, and 37 read on the drug screening assay of WO 01/53312 A1, which teaches a SAK polypeptide.

The Office does not have the facilities and resources to provide the factual evidence needed in order to establish that the polypeptide of the prior art does not possess the functional characteristics of the instantly claimed polypeptide. Since the structures are the same, it is the Office's position that the polypeptide of the prior art has the claimed kinase activity. In the absence of evidence to the contrary, the burden is on the applicant to prove that the claimed polypeptide is different from those taught by the prior art and to establish patentable differences. See In re Best 562F.2d 1252, 195 USPQ 430 (CCPA 1977) and Ex parte Gray 10 USPQ 2d 1922 (PTO Bd. Pat. App. & Int. 1989).

Claim Rejections - 35 USC § 103

Claims 9, 15, 16, 18, 26-31, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 01/53312 A1 (cited above) in view of US 5,650,501 A of record.

Claims 9, 15, 16, 18, 26-31, and 34 are drawn to method of identifying a useful compound by determining the functional effect of said compound modulating cellular proliferation when said compound is contacted with a SAK polypeptide encoded by a nucleic acid encoding a SAK polypeptide having at least 95% sequence identity to instant SEQ ID NO:2 protein, wherein the polypeptide with serine/threonine kinase activity is expressed in a eukaryotic host cell (claim 15), the effect being a physical effect (claim 16), a phenotypic effect (claim 18), the host cell being a cancer cell (claim 26, and 27), the cell being transformed cell lines (claims 28, and 30), and the cancer cells being p53 mutant or wild-type (claims 30, and 31), the compound being antibody (claim 34).

Applicant argues that US 5,650,501 A of record does not teach the limitation of "a SAK polypeptide having at least 95% sequence identity to SEQ ID NO:2" in the amended claim 9.

In response to the amendment, the 102(b) rejection with US 5,650,501 A of record is withdrawn and US 5,650,501 A of record is being used for 103 (a) reference.

WO 01/53312 A1 teaches the polypeptide being used in the screening assay. Note 102(e) above for further details of what WO 01/53312 A1 teaches.

WO 01/53312 A1 does not teach a eukaryotic host cell, the effect being a physical effect, a phenotypic effect, the host cell being a cancer cell, the cell being transformed cell lines, and the cancer cells being p53 mutant or wild-type, the compound being antibody.

The '501 patent teaches an antibody to a serine/threonine kinase protein (for example column 5), a eukaryotic host cell, and various cancer cells for at column 19, lines 52-67 "Substances which are capable of binding to the kinase protein of the invention or isoforms or parts thereof, particularly regulators, agonists and antagonists of the binding of regulators and substrates of Sak protein identified by the methods of the invention, antisense nucleic acid molecules of the invention, and antibodies of the invention may be used for stimulating or inhibiting cell proliferation. The regulators, agonists and antagonists, substrates etc. may accordingly be used to stimulate or inhibit cell proliferation associated with disorders including various forms of cancer such as leukemias, lymphomas (Hodgkins and non-Hodgkins), sarcomas, melanomas, adenomas, carcinomas of solid tissue, hypoxic tumors, squamous cell carcinomas of the mouth, throat, larynx, and lung, genitourinary cancers such as cervical and bladder cancer, hematopoetic cancers, head and neck cancers, and nervous system cancers".

As for the effect being a physical effect, a phenotypic effect, the host cell being a the '501 patent discloses at the line bridging columns 1 and 2 that an antisense to block the expression of SAK inhibits cellular proliferation, i.e. "cell growth was suppressed", and at column 5 lines 5-40 discloses "the method comprises providing a known concentration of a serine/threonine kinase protein of the invention, or an isoform or part of the protein, incubating the kinase protein, isoform or part of the protein with a substance which is a substrate of the kinase protein, or isoform or part of the protein, and a suspected agonist or antagonist substance, under conditions which permit the phosphorylation of the substrate, and assaying for phosphorylation of the substrate. In a

second embodiment, the method comprises providing a known concentration of a serine/threonine kinase protein of the invention, or an isoform or part of the protein, incubating the kinase protein with a substance which is capable of binding to and activating the kinase protein, or isoform or part of the protein, and a suspected agonist or antagonist substance under conditions which permit the formation of substance-protein complexes, and assaying for activation of the kinase protein. The methods of the invention permit the identification of potential stimulators or inhibitors of cell proliferation which will be useful in the treatment of proliferative disorders." In other words, the invention is to discover the antagonist or agonist of cellular proliferation modulated by the activity of SAK polypeptide.

Further, the '501 patent at column 5 line 23-25 teaches "Substance which affect cell proliferation may be identified", and "The invention provides a method for screening for substances having pharmaceutical utility in treatment and diagnosis of proliferative disorders". The '501 patent at column 14 teaches an antibody, method of using the antibody in determining cellular proliferation modulation at column 16, detailed screening assays for measuring cellular proliferation using the SAK polypeptides and other putative medically useful compounds of peptide and antibody from columns 17-20.

As stated in the previous Office action, the recited status of p53 status of being wild type, the null, or mutant, especially given that the instant specification is not about which cancer has null, or mutation, or wilt-type in p53, it is the Office's position that various cancer cells of the '501 patent have the different status in p53 gene. The Office does not have the facilities and resources to provide the factual evidence needed in

order to establish that the various cancers of the '501 patent do not have the three different p53 status. This determination requires sequencing of all the cancers listed in the '501 patent. In the absence of evidence to the contrary, the burden is on the applicant to prove that the claimed cancer cells are different from those taught by the prior art and to establish patentable differences. See In re Best 562F.2d 1252, 195 USPQ 430 (CCPA 1977) and Ex parte Gray 10 USPQ 2d 1922 (PTO Bd. Pat. App. & Int.1989).

As for claims 30, and 29, drawn to transformed cancer cell lines, the '501 patent at column 12, line 7 teaches "HeLa" cell.

Therefore, it would have been obvious to one of ordinary skill in the art to use DNA synthesis as an amount of ^{3}H thymidine incorporation or measuring green fluorescent protein detection with a reasonable expectation of success, given that the '501 patent teaches that a SAK protein is involved in cellular proliferation. One of ordinary skill would be motivated to identify a compound that dilutes the green emission as an candidate that might be inhibiting cellular protein, or the compound that inhibits ^{3}H thymidine incorporation in DNA of the cell as a possible candidate for inhibiting cancer cell growth, given that the '501 patent teaches that a SAK protein is involved in cellular proliferation

Claims 9, 15, and **20-23** are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 01/53312 A1 (cited above) in view of US 5,650,501 A of record and further in view of US 5,959,081 A of record (the '081 patent).

Claims 9, 15, and 20-23 are drawn to method involving measuring cellular proliferation as the functional effect to identify a useful compound by determining whether or not said compound modulates cellular proliferation, when said compound is contacted with a SAK polypeptide having at least 95% sequence identity to the instant SEQ ID NO:2 protein, wherein said cellular proliferation is determined by measuring DNA synthesis or measuring green fluorescent protein.

Applicant argues that the instant inventors are the first to discover the function of a SAK polypeptide as it relates to cellular proliferation and therefore the claimed methods. Applicant also argues the amendment to the claims renders the rejection of record moot, and goes on to argue that the '501 patent and the :081 patent, alone or combined, do not disclose or suggest a method for identifying a compound that modulates cellular proliferation by contacting a polypeptide having at least about 95% sequence identity to SEQ ID N0:2.

These arguments have been fully considered but found unpersuasive because the amended limitation of a SAK polypeptide having at least 95% sequence identity to the instant SEQ ID NO:2 protein is taught by WO 01/53312 A1 before the effective filing date of the instant application.

WO 01/53312 A1 teaches a SAK polypeptide having at least 95% sequence identity to the instant SEQ ID NO:2 protein, and US 5,959,081 A of record teaches that

a SAK protein involved in cellular proliferation, and method of identifying agonists and antagonists of a SAK polypeptide.

Neither WO 01/53312 A1 nor the '501 patent teaches measuring a cellular proliferation as the chemical or phenotypic effect, or measuring DNA synthesis using ^{3}H thymidine incorporation or measuring green fluorescent protein.

However, the '801 patent teaches at columns 24 and 26 that DNA synthesis as an amount of ^{3}H thymidine incorporation or measuring green fluorescent protein detection are well known techniques in the art before the effective filing date of the instant application.

Therefore, it would have been obvious to one of ordinary skill in the art to use DNA synthesis as an amount of ^{3}H thymidine incorporation or measuring green fluorescent protein detection with a reasonable expectation of success, given that the '501 patent teaches that a SAK protein is involved in cellular proliferation, and also given that WO 01/53312 A1 teaches a SAK polypeptide having at least 95% sequence identity to the instant SEQ ID NO:2 protein. One of ordinary skill would be motivated to identify a compound that dilutes the green emission as an candidate that might be inhibiting cellular protein, or the compound that inhibits ^{3}H thymidine incorporation in DNA of the cell as a possible candidate for inhibiting cancer cell growth because finding such compound would lead to making money.

Claims 9, 37, and **38** are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 01/53312 A1 (cited above) in view of US 5,650,501 A (22 July 1997) and further in view of US 5,589,356 A (31 December 1996, the '356 patent from now on).

Claims 9, 37, and 38 are interpreted as drawn to method of identifying a useful circular peptide by determining whether or not said circular peptide affecting cellular proliferation when said compound is contacted with a SAK polypeptide encoded by a nucleic acid hybridizes under stringent conditions to the nucleic acid encoding the instant SEQ ID NO:2 protein.

Applicant argues that the '501 patent and the '356 patent, alone or combined, do not disclose or suggest a method for identifying a compound that modulates cellular proliferation by contacting a polypeptide having at least about 95% sequence identity to SEQ ID NO:2.

The argument has been considered fully but found unpersuasive because WO 01/53312 A1 teaches the claimed polypeptide being used in the assay, and the '501 patent teaches SAK polypeptides are involved in cellular proliferation, and it is a good idea to use SAK polypeptides to screen a compound because it might lead to identifying a compound to treat cancer. See 102(b) and 103 (a) rejections above for further detail.

Neither WO 01/53312 A1 nor the '501 patent does not teach a circular peptide.

However, the '356 patent teaches (at the front page) a circular peptide and also teach that a usefulness of a circular peptide as a therapeutic has been recognized in the art before the effective filing date of the instant application (note column 3, lines 3-4).

Therefore, it would have been obvious to one of ordinary skill in the art to add a circular peptide to see whether the circular peptide modulates cellular proliferation, given that the '501 patent teaches that a SAK protein is involved in cellular proliferation and WO 01/53312 A1 teaches a SAK polypeptide that meets the amended limitation

and the '356 patent teaches many circular peptides. One of ordinary skill in the art would have been able to accomplish the claimed method with a reasonable expectation of success, because WO 01/53312 A1 teaches a SAK polypeptide that meets the amended limitation. One of ordinary skill would have been motivated to screen a circular peptide with the art-known detection methods as described by the '501 paten, given that the '356 patent teaches that a circular peptide might be a candidate therapeutic.

Conclusion

Claim 33 is objected because it depends on the rejected base claim.

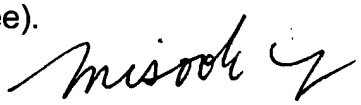
Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MISOOK YU, Ph.D. whose telephone number is 571-272-0839. The examiner can normally be reached on 8 A.M. to 5:30 P.M., every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Siew can be reached on 571-272-0787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



MISOOK YU, Ph.D.
Examiner
Art Unit 1642

CC cytokine, cell proliferation or cell differentiation or which may induce
CC production of other cytokines in other cell populations. The
CC polynucleotides and polypeptides are useful in gene therapy, vaccines or
CC peptide therapy. The polypeptides have various cytokine-like activities,
CC e.g. stem cell growth factor activity, haematopoiesis regulating
CC activity, tissue growth factor activity, immunomodulatory activity and
CC activin/inhibin activity and may be useful in the diagnosis and/or
CC treatment of cancer, leukaemia, nervous system disorders, arthritis and
CC inflammation. Note: Records for SEQ ID NO 2110 (AAK52581), 2111
CC (AAK52582) and 3666 (AAM80020) are omitted as the relevant pages from the
CC sequence listing were missing at the time of publication
XX
SQ Sequence 970 AA;

Query Match 99.9%; Score 5075; DB 4; Length 970;
Best Local Similarity 99.9%; Pred. No. 0;
Matches 969; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

```
Qy    1 MATCIGEKIEDFKVGNLLGKGSFAGVYRAESIHTGLEVAIKMIDKKAMYKAGMVQRVQNE 60
Db    1 MATCIGEKIEDFKVGNLLGKGSFAGVYRAESIHTGLEVAIKMIDKKAMYKAGMVQRVQNE 60

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Qy  781 ALESIISEEERKTRSAPFFPIIIGRKPGSTSSPKALSPPPSVDSNYPTRDRASFNRMVMH 840
Db  781 ALESIISEEERKTRSAPFFPIIIGRKPGSTSSPKALSPPPSVDSNYPTRDRASFNRMVMH 840

Qy  841 SAASPTQAPILNPSMVTNEGLGLTTTASGTDISSNSLKDCLPKSAQLLKSVFVKNVGWAT 900
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Qy  901 QLTSGAVWVQFNDGSQLVVQAGVSSISYTSPNGQTTRYGENEKLPDYIKQKLQCLSSILL 960
Db  901 QLTSGAVWVQFNDGSQLVVQAGVSSISYTSPNGQTTRYGENEKLPDYIKQKLQCLSSILL 960

Qy  961 MFSNPTPNFH 970
Db  961 MFSNPTPNFH 970
```

RESULT 2
AAM39244
ID AAM39244 standard; protein; 970 AA.
XX
AC AAM39244;
XX
DT 22-OCT-2001 (first entry)
XX
DE Human polypeptide SEQ ID NO 2389.
XX
KW Human; nootropic; immunosuppressant; cytostatic; gene therapy; cancer;
KW peripheral nervous system; neuropathy; central nervous system; CNS;
KW Alzheimer's; Parkinson's disease; Huntington's disease; haemostatic;
KW amyotrophic lateral sclerosis; Shy-Drager Syndrome; chemotactic;
KW chemokinetic; thrombolytic; drug screening; arthritis; inflammation;
KW leukaemia.
XX
OS Homo sapiens.
XX
PN WO200153312-A1.
XX
PD 26-JUL-2001. 102 (a), and (e)
XX
PF 26-DEC-2000; 2000WO-US034263.
XX
PR 23-DEC-1999; 99US-00471275.
PR 21-JAN-2000; 2000US-00488725.
PR 25-APR-2000; 2000US-00552317.
PR 20-JUN-2000; 2000US-00598042.
PR 19-JUL-2000; 2000US-00620312.
PR 03-AUG-2000; 2000US-00653450.
PR 14-SEP-2000; 2000US-00662191.
PR 19-OCT-2000; 2000US-00693036.
PR 29-NOV-2000; 2000US-00727344.
XX
PA (HYSB-) HYSEQ INC.
XX
PI Tang YT, Liu C, Asundi V, Chen R, Ma Y, Qian XB, Ren F, Wang D;
PI Wang J, Wang Z, Wehrman T, Xu C, Xue AJ, Yang Y, Zhang J, Zhao QA;
PI Zhou P, Goodrich R, Drmanac RT;
XX
DR WPI; 2001-442253/47.
DR N-PSDB; AAI58400.
XX
PT Novel nucleic acids and polypeptides, useful for treating disorders such
PT as central nervous system injuries.
XX
PS Example 4; SEQ ID NO 2389; 10078pp; English.
XX
CC The invention relates to human nucleic acids (AAI57798-AAI61369) and the
CC encoded polypeptides (AAM38642-AAM42213) with nootropic,
CC immunosuppressant and cytostatic activity. The polynucleotides are useful
CC in gene therapy. A composition containing a polypeptide or polynucleotide
CC of the invention may be used to treat diseases of the peripheral nervous
CC system, such as peripheral nervous injuries, peripheral neuropathy and
CC localised neuropathies and central nervous system diseases, such as
CC Alzheimer's, Parkinson's disease, Huntington's disease, amyotrophic
CC lateral sclerosis, and Shy-Drager Syndrome. Other uses include the
CC utilisation of the activities such as: Immune system suppression,

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CC   Activin/inhibin activity, chemotactic/chemokinetic activity, haemostatic
CC   and thrombolytic activity, cancer diagnosis and therapy, drug screening,
CC   assays for receptor activity, arthritis and inflammation, leukaemias and
CC   C.N.S disorders. Note: The sequence data for this patent did not form
CC   part of the printed specification
XX
SQ   Sequence 970 AA;

  Query Match           99.9%;  Score 5075;  DB 4;  Length 970;
  Best Local Similarity   99.9%;  Pred. No. 0;
  Matches  969;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 MATCIGEKIEDFKVGNLLGKGSFAGVYRAESIHTGLEVAIKMIDKKAMYKAGMVQRVQNE 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MATCIGEKIEDFKVGNLLGKGSFAGVYRAESIHTGLEVAIKMIDKKAMYKAGMVQRVQNE 60

Qy         61 VKIHCQLKHPSILELYNYFEDSNYVYLVLEMCHNGEMNRYLKNRVKPFSENEARHFMHQI 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 VKIHCQLKHPSILELYNYFEDSNYVYLVLEMCHNGEMNRYLKNRVKPFSENEARHFMHQI 120

Qy        121 ITGMLYLHSHGILHRDLTLSNLLLTRNMNIKIADFGLATQLKMPHEKHYTLCGTPNYISP 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 ITGMLYLHSHGILHRDLTLSNLLLTRNMNIKIADFGLATQLKMPHEKHYTLCGTPNYISP 180

Qy        181 EIATRSAHGLESDVWSLGCMPYTLLIGRPPFDTDTVKNTLNKVVLADYEMPSFLSIEAKD 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||:|||||||||
Db        181 EIATRSAHGLESDVWSLGCMPYTLLIGRPPFDTDTVKNTLNKVVLADYEMPTFLSIEAKD 240

Qy        241 LIHQLLRRNPADRLSLSSVLDHPFMSRNSSTKSKDLGTVEDSIDSGHATISTAITASSST 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 LIHQLLRRNPADRLSLSSVLDHPFMSRNSSTKSKDLGTVEDSIDSGHATISTAITASSST 300

Qy        301 SISGSLFDKRRLLIGQPLPNKMTVFPPKNKSSTDFSSSGDGNSFYTQWGNQETSNSGRGRV 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 SISGSLFDKRRLLIGQPLPNKMTVFPPKNKSSTDFSSSGDGNSFYTQWGNQETSNSGRGRV 360

Qy        361 IQDAEERPHSRYLRRAYSSDRSGTSNSQSQAKTYTMERCHSAEMLSVSKRSGGGENEERY 420
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        361 IQDAEERPHSRYLRRAYSSDRSGTSNSQSQAKTYTMERCHSAEMLSVSKRSGGGENEERY 420

Qy        421 SPTDNNANIFNPFKEKTSSSSGSFERPDNNQALSNHLCPGKTPPPFADPTPQTETVQQWF 480
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        421 SPTDNNANIFNPFKEKTSSSSGSFERPDNNQALSNHLCPGKTPPPFADPTPQTETVQQWF 480

Qy        481 GNLQINAHLRKTTEYDSISPNRDFQGHPDLQKDTSKNAWTDTKVKKNSDASDNAHSVKQQ 540
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        481 GNLQINAHLRKTTEYDSISPNRDFQGHPDLQKDTSKNAWTDTKVKKNSDASDNAHSVKQQ 540

Qy        541 NTMKYMTALHSKPEIIQQECVFGSDPLSEQSKTRGMEPPWGYQNRTLRSITSPLVAHRLK 600
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        541 NTMKYMTALHSKPEIIQQECVFGSDPLSEQSKTRGMEPPWGYQNRTLRSITSPLVAHRLK 600

Qy        601 PIRQKTKKAVVSILDSEEVCVELVKEYASQEYVKEVLQISSDGNTITIYYPNGGRGFPLA 660
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        601 PIRQKTKKAVVSILDSEEVCVELVKEYASQEYVKEVLQISSDGNTITIYYPNGGRGFPLA 660

Qy        661 DRPPSPTDNISRYSFDNLPEKYWRKYQYASRFVQLVRSKSPKITYFTRYAKCILMENSPG 720
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        661 DRPPSPTDNISRYSFDNLPEKYWRKYQYASRFVQLVRSKSPKITYFTRYAKCILMENSPG 720

Qy        721 ADFEVWFYDGVKIHKTEDFIQVIEKTGKSYTLKSESEVNSLKEEIKMYMDHANEGHRICL 780
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        721 ADFEVWFYDGVKIHKTEDFIQVIEKTGKSYTLKSESEVNSLKEEIKMYMDHANEGHRICL 780

Qy        781 ALESIISEEERKTRSAPFFPIIIGRKPGSTSSPKALSPPPSVDSNYPTRDRASFNRMVMH 840
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        781 ALESIISEEERKTRSAPFFPIIIGRKPGSTSSPKALSPPPSVDSNYPTRDRASFNRMVMH 840

Qy        841 SAASPTQAPILNPSMVTNEGLGLTTTASGTDISSNSLKDCLPKSAQLLKSVFVKNVGWAT 900
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        841 SAASPTQAPILNPSMVTNEGLGLTTTASGTDISSNSLKDCLPKSAQLLKSVFVKNVGWAT 900

Qy        901 QLTSGAVWVQFNDGSQLVVQAGVSSISYTSPNGQTTRYGENEKLPDYIKQKLQCLSSILL 960
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        901 QLTSGAVWVQFNDGSQLVVQAGVSSISYTSPNGQTTRYGENEKLPDYIKQKLQCLSSILL 960

Qy        961 MPSNPTPNFH 970
              ||||||||||
Db        961 MPSNPTPNFH 970


RESULT 3
AAM79817
ID   AAM79817 standard; protein; 980 AA.
XX
AC   AAM79817;
XX
DT   06-NOV-2001  (first entry)
XX
DE   Human protein SEQ ID NO 3463.
XX
KW   Human; cytokine; cell proliferation; cell differentiation; gene therapy;
KW   vaccine; peptide therapy; stem cell growth factor; haematopoiesis;
KW   tissue growth factor; immunomodulatory; cancer; leukaemia;
KW   nervous system disorder; arthritis; inflammation.
XX
OS   Homo sapiens.
XX
PN   WO200157190-A2.
XX
PD   09-AUG-2001.
XX
PF   05-FEB-2001; 2001WO-US004098.
XX
PR   03-FEB-2000; 2000US-00496914.
PR   27-APR-2000; 2000US-00560875.
PR   20-JUN-2000; 2000US-00598075.
PR   19-JUL-2000; 2000US-00620325.
PR   01-SEP-2000; 2000US-00654936.
PR   15-SEP-2000; 2000US-00663561.
PR   20-OCT-2000; 2000US-00693325.
PR   30-NOV-2000; 2000US-00728422.
XX
PA   (HYSB-) HYSEQ INC.
XX
PI   Tang YT,  Liu C,  Drmanac RT,  Asundi V,  Zhou P,  Xu C,  Cao Y;
PI   Ma Y,  Zhao QA,  Wang D,  Wang J,  Zhang J,  Ren P,  Chen R,  Wang ZW;
PI   Xue AJ,  Yang Y,  Wejhrman T,  Goodrich R;
XX
DR   WPI; 2001-476283/51.
DR   N-PSDB; AAK52950.
XX
PT   Nucleic acids encoding polypeptides with cytokine-like activities, useful
PT   in diagnosis and gene therapy.
XX
PS   Claim 20; Page 345; 6221pp; English.
XX
CC   The invention relates to polynucleotides (AAK51456-AAK53435) and the
CC   encoded polypeptides (AAM78323-AAM80302) that exhibit activity elating to
CC   cytokine, cell proliferation or cell differentiation or which may induce
CC   production of other cytokines in other cell populations. The
CC   polynucleotides and polypeptides are useful in gene therapy, vaccines or
CC   peptide therapy. The polypeptides have various cytokine-like activities,
CC   e.g. stem cell growth factor activity, haematopoiesis regulating
CC   activity, tissue growth factor activity, immunomodulatory activity and
CC   activin/inhibin activity and may be useful in the diagnosis and/or
CC   treatment of cancer, leukaemia, nervous system disorders, arthritis and
CC   inflammation. Note: Records for SEQ ID NO 2110 (AAK52581), 2111
CC   (AAK52582) and 3666 (AAM80020) are omitted as the relevant pages from the
CC   sequence listing were missing at the time of publication
XX
SQ   Sequence 980 AA;

  Query Match           99.9%;  Score 5075;  DB 4;  Length 980;
  Best Local Similarity   99.9%;  Pred. No. 0;
  Matches  969;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;
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Db       2194 GTGGAGCTTGTAAAGGAGTATGCATCTCAAGAATATGTGAAAGAAGTTCTTCAGATATCT 2253
Qy       1921 AGTGATGGAAATACGATCACTATTTATTATCCAAATGGTGGTAGAGGTTTTCCTCTTGCT 1980
Db       2254 AGTGATGGAAATACGATCACTATTTATTATCCAAATGGTGGTAGAGGTTTTCCTCTTGCT 2313
Qy       1981 GATAGACCACCCTCACCTACTGACAACATCAGTAGGTACAGCTTTGACAATTTACCAGAA 2040
Db       2314 GATAGACCACCCTCACCTACTGACAACATCAGTAGGTACAGCTTTGACAATTTACCAGAA 2373
Qy       2041 AAATACTGGCGAAAATATCAATATGCTTCCAGGTTTGTACAGCTTGTAAGATCTAAATCT 2100
Db       2374 AAATACTGGCGAAAATATCAATATGCTTCCAGGTTTGTACAGCTTGTAAGATCTAAATCT 2433
Qy       2101 CCCAAAATCACTTATTTTACAAGATATGCTAAATGCATTTTGATGGAGAATTCTCCTGGT 2160
Db       2434 CCCAAAATCACTTATTTTACAAGATATGCTAAATGCATTTTGATGGAGAATTCTCCTGGT 2493
Qy       2161 GCTGATTTTGAGGTTTGGTTTTATGATGGGGTAAAAATACACAAAACAGAAGATTTCATT 2220
Db       2494 GCTGATTTTGAGGTTTGGTTTTATGATGGGGTAAAAATACACAAAACAGAAGATTTCATT 2553
Qy       2221 CAGGTGATTGAAAAGACAGGGAAGTCTTACACTTTAAAAAGTGAAAGTGAAGTTAATAGC 2280
Db       2554 CAGGTGATTGAAAAGACAGGGAAGTCTTACACTTTAAAAAGTGAAAGTGAAGTTAATAGC 2613
Qy       2281 TTGAAAGAGGAGATAAAAATGTATATGGACCATGCTAATGAGGGTCATCGTATTTGTTTA 2340
Db       2614 TTGAAAGAGGAGATAAAAATGTATATGGACCATGCTAATGAGGGTCATCGTATTTGTTTA 2673
Qy       2341 GCACTGGAATCCATAATTTCAGAAGAGGAAAGGAAAACTAGGAGTGCTCCCTTTTTCCCA 2400
Db       2674 GCACTGGAATCCATAATTTCAGAAGAGGAAAGGAAAACTAGGAGTGCTCCCTTTTTCCCA 2733
Qy       2401 ATAATCATAGGAAGAAAACCTGGTAGTACTAGTTCACCTAAGGCCTTATCACCTCCTCCT 2460
Db       2734 ATAATCATAGGAAGAAAACCTGGTAGTACTAGTTCACCTAAGGCCTTATCACCTCCTCCT 2793
Qy       2461 TCTGTGGATTCAAATTACCCAACGAGAGATAGAGCATCTTTCAACAGAATGGTCATGCAT 2520
Db       2794 TCTGTGGATTCAAATTACCCAACGAGAGATAGAGCATCTTTCAACAGAATGGTCATGCAT 2853
Qy       2521 AGTGCTGCTTCTCCAACACAGGCACCAATCCTTAATCCCTCTATGGTTACAAATGAAGGA 2580
Db       2854 AGTGCTGCTTCTCCAACACAGGCACCAATCCTTAATCCCTCTATGGTTACAAATGAAGGA 2913
Qy       2581 CTTGGTCTTACAACTACAGCTTCTGGAACAGACATCTCTTCTAATAGTCTAAAAGATTGT 2640
Db       2914 CTTGGTCTTACAACTACAGCTTCTGGAACAGACATCTCTTCTAATAGTCTAAAAGATTGT 2973
Qy       2641 CTTCCTAAATCAGCACAACTTTTGAAATCTGTTTTTGTGAAAAATGTTGGTTGGGCTACA 2700
Db       2974 CTTCCTAAATCAGCACAACTTTTGAAATCTGTTTTTGTGAAAAATGTTGGTTGGGCTACA 3033
Qy       2701 CAGTTAACTAGTGGAGCTGTGTGGGTTCAGTTTAATGATGGGTCCCAGTTGGTTGTGCAG 2760
Db       3034 CAGTTAACTAGTGGAGCTGTGTGGGTTCAGTTTAATGATGGGTCCCAGTTGGTTGTGCAG 3093
Qy       2761 GCAGGAGTGTCTTCTATCAGTTATACCTCACCAAATGGTCAAACAACTAGGTATGGAGAA 2820
Db       3094 GCAGGAGTGTCTTCTATCAGTTATACCTCACCAAATGGTCAAACAACTAGGTATGGAGAA 3153
Qy       2821 AATGAAAAATTACCAGACTACATCAAACAGAAATTACAGTGTCTGTCTTCCATCCTTTTG 2880
Db       3154 AATGAAAAATTACCAGACTACATCAAACAGAAATTACAGTGTCTGTCTTCCATCCTTTTG 3213
Qy       2881 ATGTTTTCTAATCCGACTCCTAATTTTCATTGA 2913
Db       3214 ATGTTTTCTAATCCGACTCCTAATTTTCATTGA 3246
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RESULT 2
AAI58400

ID AAI58400 standard; cDNA; 3937 BP.
XX
AC AAI58400;
XX
DT 22-OCT-2001 (first entry)
XX
DE Human polynucleotide SEQ ID NO 603.
XX
KW Human; nootropic; immunosuppressant; cytostatic; gene therapy; cancer;
KW peripheral nervous system; neuropathy; central nervous system; CNS;
KW Alzheimer's; Parkinson's disease; Huntington's disease; haemostatic;
KW amyotrophic lateral sclerosis; Shy-Drager Syndrome; chemotactic;
KW chemokinetic; thrombolytic; drug screening; arthritis; inflammation;
KW leukaemia; ss.
XX
OS Homo sapiens.
XX
PN WO200153312-A1.
XX
PD 26-JUL-2001.
XX
PF 26-DEC-2000; 2000WO-US034263.
XX
PR 23-DEC-1999; 99US-00471275.
PR 21-JAN-2000; 2000US-00488725.
PR 25-APR-2000; 2000US-00552317.
PR 20-JUN-2000; 2000US-00598042.
PR 19-JUL-2000; 2000US-00620312.
PR 03-AUG-2000; 2000US-00653450.
PR 14-SEP-2000; 2000US-00662191.
PR 19-OCT-2000; 2000US-00693036.
PR 29-NOV-2000; 2000US-00727344.
XX
PA (HYSE-) HYSEQ INC.
XX
PI Tang YT, Liu C, Asundi V, Chen R, Ma Y, Qian XB, Ren P, Wang D;
PI Wang J, Wang Z, Wehrman T, Xu C, Xue AJ, Yang Y, Zhang J, Zhao QA;
PI Zhou P, Goodrich R, Drmanac RT;
XX
DR WPI; 2001-442253/47.
DR P-PSDB; AAM39244.
XX
PT Novel nucleic acids and polypeptides, useful for treating disorders such
PT as central nervous system injuries.
XX
PS Claim 1; SEQ ID NO 603; 10078pp; English.
XX
CC The invention relates to human nucleic acids (AAI57798-AAI61369) and the
CC encoded polypeptides (AAM38642-AAM42213) with nootropic,
CC immunosuppressant and cytostatic activity. The polynucleotides are useful
CC in gene therapy. A composition containing a polypeptide or polynucleotide
CC of the invention may be used to treat diseases of the peripheral nervous
CC system, such as peripheral nervous injuries, peripheral neuropathy and
CC localised neuropathies and central nervous system diseases, such as
CC Alzheimer's, Parkinson's disease, Huntington's disease, amyotrophic
CC lateral sclerosis, and Shy-Drager Syndrome. Other uses include the
CC utilisation of the activities such as: Immune system suppression,
CC Activin/inhibin activity, chemotactic/chemokinetic activity, haemostatic
CC and thrombolytic activity, cancer diagnosis and therapy, drug screening,
CC assays for receptor activity, arthritis and inflammation, leukaemias and
CC C.N.S disorders. Note: The sequence data for this patent did not form
CC part of the printed specification
XX
SQ Sequence 3937 BP; 1295 A; 732 C; 773 G; 1137 T; 0 U; 0 Other;

Query Match 99.9%; Score 2911.4; DB 4; Length 3937;
Best Local Similarity 100.0%; Pred. No. 0;
Matches 2912; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

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Qy          1 ATGGCGACCTGCATCGGGGAGAAGATCGAGGATTTTAAAGTTGGAAATCTGCTTGGTAAA 60
Db        334 ATGGCGACCTGCATCGGGGAGAAGATCGAGGATTTTAAAGTTGGAAATCTGCTTGGTAAA 393
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293

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Qy        61 GGATCATTTGCTGGTGTCTACAGAGCTGAGTCCATTCACACTGGTTTGGAAGTTGCAATC 120
Db       394 GGATCATTTGCTGGTGTCTACAGAGCTGAGTCCATTCACACTGGTTTGGAAGTTGCAATC 453

Qy       121 AAAATGATAGATAAGAAAGCCATGTACAAAGCAGGAATGGTACAGAGAGTCCAAAATGAG 180
Db       454 AAAATGATAGATAAGAAAGCCATGTACAAAGCAGGAATGGTACAGAGAGTCCAAAATGAG 513

Qy       181 GTGAAAAATACATTGCCAATTGAAACATCCTTCTATCTTGGAGCTTTATAACTATTTTGAA 240
Db       514 GTGAAAAATACATTGCCAATTGAAACATCCTTCTATCTTGGAGCTTTATAACTATTTTGAA 573

Qy       241 GATAGCAATTATGTGTATCTGGTATTAGAAATGTGCCATAATGGAGAAATGAACAGGTAT 300
Db       574 GATAGCAATTATGTGTATCTGGTATTAGAAATGTGCCATAATGGAGAAATGAACAGGTAT 633

Qy       301 CTAAAGAATAGAGTGAAACCCTTCTCAGAAAATGAAGCTCGACACTTCATGCACCAGATC 360
Db       634 CTAAAGAATAGAGTGAAACCCTTCTCAGAAAATGAAGCTCGACACTTCATGCACCAGATC 693

Qy       361 ATCACAGGGATGTTGTATCTTCATTCTCATGGTATACTACACCGGGACCTCACACTTTCT 420
Db       694 ATCACAGGGATGTTGTATCTTCATTCTCATGGTATACTACACCGGGACCTCACACTTTCT 753

Qy       421 AACCTCCTACTGACTCGTAATATGAACATCAAGATTGCTGATTTTGGGCTGGCAACTCAA 480
Db       754 AACCTCCTACTGACTCGTAATATGAACATCAAGATTGCTGATTTTGGGCTGGCAACTCAA 813

Qy       481 CTGAAAATGCCACATGAAAAGCACTATACATTATGTGGAACTCCTAACTACATTTCACCA 540
Db       814 CTGAAAATGCCACATGAAAAGCACTATACATTATGTGGAACTCCTAACTACATTTCACCA 873

Qy       541 GAAATTGCCACTCGAAGTGCACATGGCCTTGAATCTGATGTTTGGTCCCTGGGCTGTATG 600
Db       874 GAAATTGCCACTCGAAGTGCACATGGCCTTGAATCTGATGTTTGGTCCCTGGGCTGTATG 933

Qy       601 TTTTATACATTACTTATCGGGAGACCACCCTTCGACACTGACACAGTCAAGAACACATTA 660
Db       934 TTTTATACATTACTTATCGGGAGACCACCCTTCGACACTGACACAGTCAAGAACACATTA 993

Qy       661 AATAAAGTAGTATTGGCAGATTATGAAATGCCATCTTTTTTGTCAATAGAGGCCAAGGAC 720
Db       994 AATAAAGTAGTATTGGCAGATTATGAAATGCCAACTTTTTTGTCAATAGAGGCCAAGGAC 1053

Qy       721 CTTATTCACCAGTTACTTCGTAGAAATCCAGCAGATCGTTTAAGTCTGTCTTCAGTATTG 780
Db      1054 CTTATTCACCAGTTACTTCGTAGAAATCCAGCAGATCGTTTAAGTCTGTCTTCAGTATTG 1113

Qy       781 GACCATCCTTTTATGTCCCGAAATTCTTCAACAAAAAGTAAAGATTTAGGAACTGTGGAA 840
Db      1114 GACCATCCTTTTATGTCCCGAAATTCTTCAACAAAAAGTAAAGATTTAGGAACTGTGGAA 1173

Qy       841 GACTCAATTGATAGTGGGCATGCCACAATTTCTACTGCAATTACAGCTTCTTCCAGTACC 900
Db      1174 GACTCAATTGATAGTGGGCATGCCACAATTTCTACTGCAATTACAGCTTCTTCCAGTACC 1233

Qy       901 AGTATAAGTGGTAGTTTATTTGACAAAAGAAGACTTTTGATTGGTCAGCCACTCCCAAAT 960
Db      1234 AGTATAAGTGGTAGTTTATTTGACAAAAGAAGACTTTTGATTGGTCAGCCACTCCCAAAT 1293

Qy       961 AAAATGACTGTATTTCCAAAGAATAAAAGTTCAACTGATTTTTCTTCTTCAGGAGATGGA 1020
Db      1294 AAAATGACTGTATTTCCAAAGAATAAAAGTTCAACTGATTTTTCTTCTTCAGGAGATGGA 1353

Qy      1021 AACAGTTTTTATACTCAGTGGGGAAATCAAGAAACCAGTAATAGTGGAAGGGGAAGAGTA 1080
Db      1354 AACAGTTTTTATACTCAGTGGGGAAATCAAGAAACCAGTAATAGTGGAAGGGGAAGAGTA 1413

Qy      1081 ATTCAAGATGCAGAAGAAAGGCCACATTCTCGATACCTTCGTAGAGCTTATTCCTCTGAT 1140
Db      1414 ATTCAAGATGCAGAAGAAAGGCCACATTCTCGATACCTTCGTAGAGCTTATTCCTCTGAT 1473

Qy      1141 AGATCTGGCACTTCTAATAGTCAGTCTCAAGCAAAAACATATACAATGGAACGATGTCAC 1200
Db      1474 AGATCTGGCACTTCTAATAGTCAGTCTCAAGCAAAAACATATACAATGGAACGATGTCAC 1533

Qy      1201 TCAGCAGAAATGCTTTCAGTGTCCAAAAGATCAGGAGGAGGTGAAAATGAAGAGAGGTAC 1260
Db      1534 TCAGCAGAAATGCTTTCAGTGTCCAAAAGATCAGGAGGAGGTGAAAATGAAGAGAGGTAC 1593

Qy      1261 TCACCCACAGACAACAATGCCAACATTTTTAACTTCTTTAAAGAAAAGACATCCAGTAGT 1320
Db      1594 TCACCCACAGACAACAATGCCAACATTTTTAACTTCTTTAAAGAAAAGACATCCAGTAGT 1653

Qy      1321 TCTGGATCTTTTGAAAGACCTGATAACAATCAAGCACTCTCCAATCATCTTTGTCCAGGA 1380
Db      1654 TCTGGATCTTTTGAAAGACCTGATAACAATCAAGCACTCTCCAATCATCTTTGTCCAGGA 1713

Qy      1381 AAAACTCCTTTTCCATTTGCAGACCCGACACCTCAGACTGAAACCGTACAACAGTGGTTT 1440
Db      1714 AAAACTCCTTTTCCATTTGCAGACCCGACACCTCAGACTGAAACCGTACAACAGTGGTTT 1773

Qy      1441 GGGAATCTGCAAATAAATGCTCATTTAAGAAAAACTACTGAATATGACAGCATCAGCCCA 1500
Db      1774 GGGAATCTGCAAATAAATGCTCATTTAAGAAAAACTACTGAATATGACAGCATCAGCCCA 1833

Qy      1501 AACCGGGACTTCCAGGGCCATCCAGATTTGCAGAAGGACACATCAAAAAATGCCTGGACT 1560
Db      1834 AACCGGGACTTCCAGGGCCATCCAGATTTGCAGAAGGACACATCAAAAAATGCCTGGACT 1893

Qy      1561 GATACAAAAGTCAAAAAGAACTCTGATGCTTCTGATAATGCACATTCTGTAAAACAGCAA 1620
Db      1894 GATACAAAAGTCAAAAAGAACTCTGATGCTTCTGATAATGCACATTCTGTAAAACAGCAA 1953

Qy      1621 AATACCATGAAATATATGACTGCACTTCACAGTAAACCTGAGATAATCCAACAAGAATGT 1680
Db      1954 AATACCATGAAATATATGACTGCACTTCACAGTAAACCTGAGATAATCCAACAAGAATGT 2013

Qy      1681 GTTTTTGGCTCAGATCCTCTTTCTGAACAGAGCAAGACTAGGGGTATGGAGCCACCATGG 1740
Db      2014 GTTTTTGGCTCAGATCCTCTTTCTGAACAGAGCAAGACTAGGGGTATGGAGCCACCATGG 2073

Qy      1741 GGTTATCAGAATCGTACATTAAGAAGCATTACATCTCCGTTGGTTGCTCACAGGTTAAAA 1800
Db      2074 GGTTATCAGAATCGTACATTAAGAAGCATTACATCTCCGTTGGTTGCTCACAGGTTAAAA 2133

Qy      1801 CCAATCAGACAGAAAACCAAAAAGGCTGTGGTGAGCATACTTGATTCAGAGGAGGTGTGT 1860
Db      2134 CCAATCAGACAGAAAACCAAAAAGGCTGTGGTGAGCATACTTGATTCAGAGGAGGTGTGT 2193

Qy      1861 GTGGAGCTTGTAAAGGAGTATGCATCTCAAGAATATGTGAAAGAAGTTCTTCAGATATCT 1920
Db      2194 GTGGAGCTTGTAAAGGAGTATGCATCTCAAGAATATGTGAAAGAAGTTCTTCAGATATCT 2253

Qy      1921 AGTGATGGAAATACGATCACTATTTATTATCCAAATGGTGGTAGAGGTTTTCCTCTTGCT 1980
Db      2254 AGTGATGGAAATACGATCACTATTTATTATCCAAATGGTGGTAGAGGTTTTCCTCTTGCT 2313

Qy      1981 GATAGACCACCCTCACCTACTGACAACATCAGTAGGTACAGCTTTGACAATTTACCAGAA 2040
Db      2314 GATAGACCACCCTCACCTACTGACAACATCAGTAGGTACAGCTTTGACAATTTACCAGAA 2373

Qy      2041 AAATACTGGCGAAAATATCAATATGCTTCCAGGTTTGTACAGCTTGTAAGATCTAAATCT 2100
Db      2374 AAATACTGGCGAAAATATCAATATGCTTCCAGGTTTGTACAGCTTGTAAGATCTAAATCT 2433

Qy      2101 CCCAAAATCACTTATTTTACAAGATATGCTAAATGCATTTTGATGGAGAATTCTCCTGGT 2160
Db      2434 CCCAAAATCACTTATTTTACAAGATATGCTAAATGCATTTTGATGGAGAATTCTCCTGGT 2493

Qy      2161 GCTGATTTTGAGGTTTGGTTTTATGATGGGGTAAAAATACACAAAACAGAAGATTTCATT 2220
Db      2494 GCTGATTTTGAGGTTTGGTTTTATGATGGGGTAAAAATACACAAAACAGAAGATTTCATT 2553

Qy      2221 CAGGTGATTGAAAAGACAGGGAAGTCTTACACTTTAAAAAGTGAAAGTGAAGTTAATAGC 2280
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Db       2554 CAGGTGATTGAAAAGACAGGGAAGTCTTACACTTTAAAAAGTGAAAGTGAAGTTAATAGC 2613

Qy       2281 TTGAAAGAGGAGATAAAAATGTATATGGACCATGCTAATGAGGGTCATCGTATTTGTTTA 2340
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       2614 TTGAAAGAGGAGATAAAAATGTATATGGACCATGCTAATGAGGGTCATCGTATTTGTTTA 2673

Qy       2341 GCACTGGAATCCATAATTTCAGAAGAGGAAAGGAAAACTAGGAGTGCTCCCTTTTTCCCA 2400
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Db       2674 GCACTGGAATCCATAATTTCAGAAGAGGAAAGGAAAACTAGGAGTGCTCCCTTTTTCCCA 2733

Qy       2401 ATAATCATAGGAAGAAAACCTGGTAGTACTAGTTCACCTAAGGCCTTATCACCTCCTCCT 2460
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       2734 ATAATCATAGGAAGAAAACCTGGTAGTACTAGTTCACCTAAGGCCTTATCACCTCCTCCT 2793

Qy       2461 TCTGTGGATTCAAATTACCCAACGAGAGATAGAGCATCTTTCAACAGAATGGTCATGCAT 2520
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       2794 TCTGTGGATTCAAATTACCCAACGAGAGATAGAGCATCTTTCAACAGAATGGTCATGCAT 2853

Qy       2521 AGTGCTGCTTCTCCAACACAGGCACCAATCCTTAATCCCTCTATGGTTACAAATGAAGGA 2580
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       2854 AGTGCTGCTTCTCCAACACAGGCACCAATCCTTAATCCCTCTATGGTTACAAATGAAGGA 2913

Qy       2581 CTTGGTCTTACAACTACAGCTTCTGGAACAGACATCTCTTCTAATAGTCTAAAAGATTGT 2640
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       2914 CTTGGTCTTACAACTACAGCTTCTGGAACAGACATCTCTTCTAATAGTCTAAAAGATTGT 2973

Qy       2641 CTTCCTAAATCAGCACAACTTTTGAAATCTGTTTTTGTGAAAAATGTTGGTTGGGCTACA 2700
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       2974 CTTCCTAAATCAGCACAACTTTTGAAATCTGTTTTTGTGAAAAATGTTGGTTGGGCTACA 3033

Qy       2701 CAGTTAACTAGTGGAGCTGTGTGGGTTCAGTTTAATGATGGGTCCCAGTTGGTTGTGCAG 2760
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       3034 CAGTTAACTAGTGGAGCTGTGTGGGTTCAGTTTAATGATGGGTCCCAGTTGGTTGTGCAG 3093

Qy       2761 GCAGGAGTGTCTTCTATCAGTTATACCTCACCAAATGGTCAAACAACTAGGTATGGAGAA 2820
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       3094 GCAGGAGTGTCTTCTATCAGTTATACCTCACCAAATGGTCAAACAACTAGGTATGGAGAA 3153

Qy       2821 AATGAAAAATTACCAGACTACATCAAACAGAAATTACAGTGTCTGTCTTCCATCCTTTTG 2880
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       3154 AATGAAAAATTACCAGACTACATCAAACAGAAATTACAGTGTCTGTCTTCCATCCTTTTG 3213

Qy       2881 ATGTTTTCTAATCCGACTCCTAATTTTCATTGA 2913
             ||||||||||||||||||||||||||||||||
Db       3214 ATGTTTTCTAATCCGACTCCTAATTTTCATTGA 3246
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RESULT 3
ADB48370
ID   ADB48370 standard; cDNA; 3937 BP.
XX
AC   ADB48370;
XX
DT   04-DEC-2003  (first entry)
XX
DE   Novel human cDNA SEQ ID NO 280.
XX
KW   ss; cancer; neurodegenerative disease; human.
XX
OS   Homo sapiens.
XX
PN   US2003104529-A1.
XX
PD   05-JUN-2003.
XX
PF   04-JAN-2002; 2002US-00037270.
XX
PR   21-JAN-2000; 2000US-00488725.
PR   25-APR-2000; 2000US-00552317.
PR   19-JUL-2000; 2000US-00620312.
XX
PA   (ZHOU/) ZHOU P.
PA   (TANG/) TANG Y T.
PA   (LIUC/) LIU C.
PA   (ASUN/) ASUNDI V.
PA   (DRMA/) DRMANAC R T.
XX
PI   Zhou P,  Tang YT,  Liu C,  Asundi V,  Drmanac RT;
XX
DR   WPI; 2003-678194/64.
XX
PT   New polynucleotide, useful for treating diseases e.g., cancer or
PT   neurodegenerative diseases.
XX
PS   Claim 1; SEQ ID NO 280; 99pp; English.
XX
CC   The invention relates to a polynucleotide comprising a sequence given in
CC   the specification, or its mature protein-coding portion, or its
CC   complement. The polynucleotide is useful for treating diseases e.g.,
CC   cancer or neurodegenerative diseases and many others listed in the
CC   specification. The present sequence represents a novel human cDNA. Note:
CC   The sequence data for this patent did not form part of the printed
CC   specification but was obtained in electronic format directly from USPTO
CC   at seqdata.uspto.gov/sequence.html?DocID=20030104529.
XX
SQ   Sequence 3937 BP; 1295 A; 732 C; 773 G; 1137 T; 0 U; 0 Other;
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  Query Match           99.9%;  Score 2911.4;  DB 8;  Length 3937;
  Best Local Similarity  100.0%;  Pred. No. 0;
  Matches 2912;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 ATGGCGACCTGCATCGGGGAGAAGATCGAGGATTTTAAAGTTGGAAATCTGCTTGGTAAA 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        334 ATGGCGACCTGCATCGGGGAGAAGATCGAGGATTTTAAAGTTGGAAATCTGCTTGGTAAA 393

Qy         61 GGATCATTTGCTGGTGTCTACAGAGCTGAGTCCATTCACACTGGTTTGGAAGTTGCAATC 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        394 GGATCATTTGCTGGTGTCTACAGAGCTGAGTCCATTCACACTGGTTTGGAAGTTGCAATC 453

Qy        121 AAAATGATAGATAAGAAAGCCATGTACAAAGCAGGAATGGTACAGAGAGTCCAAAATGAG 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        454 AAAATGATAGATAAGAAAGCCATGTACAAAGCAGGAATGGTACAGAGAGTCCAAAATGAG 513

Qy        181 GTGAAAATACATTGCCAATTGAAACATCCTTCTATCTTGGAGCTTTATAACTATTTTGAA 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        514 GTGAAAATACATTGCCAATTGAAACATCCTTCTATCTTGGAGCTTTATAACTATTTTGAA 573

Qy        241 GATAGCAATTATGTGTATCTGGTATTAGAAATGTGCCATAATGGAGAAATGAACAGGTAT 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        574 GATAGCAATTATGTGTATCTGGTATTAGAAATGTGCCATAATGGAGAAATGAACAGGTAT 633

Qy        301 CTAAAGAATAGAGTGAAACCCTTCTCAGAAAATGAAGCTCGACACTTCATGCACCAGATC 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        634 CTAAAGAATAGAGTGAAACCCTTCTCAGAAAATGAAGCTCGACACTTCATGCACCAGATC 693

Qy        361 ATCACAGGGATGTTGTATCTTCATTCTCATGGTATACTACACCGGGACCTCACACTTTCT 420
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        694 ATCACAGGGATGTTGTATCTTCATTCTCATGGTATACTACACCGGGACCTCACACTTTCT 753

Qy        421 AACCTCCTACTGACTCGTAATATGAACATCAAGATTGCTGATTTTGGGGCTGGCAACTCAA 480
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        754 AACCTCCTACTGACTCGTAATATGAACATCAAGATTGCTGATTTTGGGCTGGCAACTCAA 813

Qy        481 CTGAAAATGCCACATGAAAAGCACTATACATTATGTGGAACTCCTAACTACATTTCACCA 540
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        814 CTGAAAATGCCACATGAAAAGCACTATACATTATGTGGAACTCCTAACTACATTTCACCA 873

Qy        541 GAAATTGCCACTCGAAGTGCACATGGCCTTGAATCTGATGTTTGGTCCCTGGGCTGTATG 600
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        874 GAAATTGCCACTCGAAGTGCACATGGCCTTGAATCTGATGTTTGGTCCCTGGGCTGTATG 933

Qy        601 TTTTATACATTACTTATCGGGAGACCACCCTTCGACACTGACACAGTCAAGAACACATTA 660
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        934 TTTTATACATTACTTATCGGGAGACCACCCTTCGACACTGACACAGTCAAGAACACATTA 993

Qy        661 AATAAAGTAGTATTGGCAGATTATGAAATGCCATCTTTTTTGTCAATAGAGGCCAAGGAC 720
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